CLAIMS

What is claimed is:

1. A vehicle comprising:

a plurality of wheels;

an internal combustion engine having a drive shaft interconnected to drive at least one of the wheels;

a stator having a core and a plurality of wires disposed on the core in a three-phase winding arrangement;

a flywheel-rotor apparatus surrounding at least a portion of the stator and interconnected with the drive shaft, the flywheel-rotor apparatus being operable to magnetically interact with the stator to produce a three-phase alternating current in the wires, and to provide an inertia to the internal combustion engine; and

a power circuitry electrically connected to the plurality of wires, the power circuitry being operable to receive the three-phase alternating current and to controllably generate a single-phase alternating current.

2. A vehicle as set forth in claim 1 wherein the power circuitry includes

a regulator that regulates the three-phase alternating current to a direct current,

a storage device that stores the direct current, and

an inverter that converts the direct current to the signal-phase alternating current.

3. A vehicle as set forth in claim 1 wherein the three-phase alternating current includes a high-voltage, three-phase alternating current,

wherein the single-phase alternating current includes a first-voltage, single-phase alternating current,

wherein the stator further includes a low-voltage wire disposed on the core, and

wherein the flywheel-rotor apparatus magnetically interacts with the low-voltage wire to produce a second-voltage, single-phase alternating current in the low-voltage wire.

4. A vehicle as set forth in claim 3 wherein the high-voltage, three-phase alternating current is greater than approximately two hundred volts peak-to-peak, and the second-voltage, single-phase alternating current is less than approximately fifty volts peak-to-peak.

5. A vehicle as set forth in claim 3 wherein the power circuitry includes a first power circuitry, and

wherein the vehicle further comprises:

a second power circuitry electrically connected to the low-voltage wire, the second power circuitry being operable to receive the second voltage, single-phase alternating current and controllably generate a direct current.

6. A vehicle as set forth in claim 5 wherein the first-voltage, single-phase alternating current is between ninety and one hundred thirty five volts root-mean-square, and the direct current is between ten and fifty volts.

7. A generator as set forth in claim 5 wherein the first-voltage, single-phase alternating current is approximately one hundred twenty volts root-mean-square, and the direct current is approximately twelve volts.

8. A generator as set forth in claim 3 wherein the core includes a plurality of teeth, the total number of teeth being represented by (x),

wherein the first plurality of wires are disposed on (n) teeth, and

wherein the low-voltage wire is disposed on (x - n) teeth.

9. A generator as set forth in claim 3 wherein the core includes a plurality of teeth,

wherein the first plurality of wires are disposed on each of the teeth, and

wherein the low-voltage wire is disposed on at least one of the teeth.

10. A vehicle as set forth in claim 1 wherein the power circuitry includes a first power circuitry,

wherein the three-phase, alternating current is a first three-phase, alternating current,

wherein the single-phase alternating current is a first signal-phase alternating current,

wherein the vehicle further comprises:

a second power circuitry having at least two connections interconnected with the plurality of wires, at least one of the two connections being a tap off of one of the phases, the second power circuitry being operable to receive a second alternating current and to controllably generate a direct current.

11. A vehicle as set forth in claim 10 wherein the second alternating current is a single-phase current.

12. A vehicle as set forth in claim 10 wherein the second alternating current is a three-phase current.

13. A vehicle as set forth in claim 10 wherein the first single-phase alternating current is between ninety and one hundred thirty five volts root-mean-square, and the direct current is between ten and fifty volts.

14. A vehicle as set forth in claim 10 wherein the first single-phase alternating current is approximately one hundred twenty volts root-mean-square, and the direct current is approximately twelve volts.

15. A vehicle as set forth in claim 10 wherein the second power circuitry has three connections to the plurality of wires, each connection being a tap off of a distinct one of the phases.

16. A vehicle as set forth in claim 1 wherein the power circuitry includes a first power circuitry,

wherein the three-phase alternating current is a first three-phase alternating current,

wherein the single-phase alternating current is a first single-phase alternating current,

wherein the vehicle further comprises:

a second power circuitry having at least two connections interconnected with the plurality of wires, the second power circuitry being operable to receive a second alternating current and controllably generate a low-voltage direct current.

17. A vehicle as set forth in claim 16 wherein the second alternating current is a signal-phase alternating current.

18. A vehicle as set forth in claim 16 wherein the second alternating current is a three-phase alternating current.

19. A vehicle as set forth in claim 16 wherein the first single-phase alternating current is between ninety and one hundred thirty five volts root-mean-square, and the direct current is between ten and fifty volts.

20. A generator as set forth in claim 16 wherein the first single-phase alternating current is approximately one hundred twenty volts root-mean-square, and the direct current is approximately twelve volts.

21. A vehicle as set forth in claim 16 wherein the second power circuitry includes two connections interconnected with the plurality of wires.

22. A vehicle as set forth in claim 16 wherein the second power circuitry includes three connections interconnected with the plurality of wires.

23. A vehicle as set forth in claim 16 wherein the first and second power circuitries are interconnected.